# AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings of claims presented in the application.

# 1. (Currently amended) A compound of formula (I),

$$R_1$$
 $R_2$ 
 $R_3$ 
 $R_4$ 
 $R_4$ 
 $R_5$ 
 $R_6$ 
 $R_6$ 
 $R_7$ 
 $R_8$ 
 $R_7$ 
 $R_8$ 
 $R_7$ 
 $R_8$ 

and its tautomeric forms, its stereoisomers, and its pharmaceutically acceptable salts and solvates.

wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub> and R<sub>12</sub> may be the same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>2</sub>-C<sub>12</sub>)alkenyl, (C<sub>2</sub>-C<sub>12</sub>)alkynyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkenyl, bicycloalkyl, bicycloalkyl, (C<sub>1</sub>-C<sub>12</sub>)alkoxy, cyclo(C<sub>3</sub>-C<sub>7</sub>)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclylalkyl, heteroaralkyl, heteroaralkyl, heteroaralkoxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino,

heterocyclylalkoxycarbonyl, alkoxycarbonyl. arvloxycarbonyl, aralkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkylthio. alkoxvalkyl, aryloxyalkyl, aralkoxyalkyl, thioalkyl. alkoxycarbonylamino. aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino. dialkylaminocarbonylamino, hydroxylamino: or the adjacent groups like R1 and R2 or R2 and R3 or R3 and R4 or R5 and R6 or R6 and R<sub>7</sub> or R<sub>7</sub> and R<sub>8</sub> together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R9 and R10 or R11 and R12 together represent double bond attached to "Oxygen" or "Sulfur": or Ro and Rio or Rii and Riz together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen". "Sulfur" or "Selenium," as above defined;

 $R_{13}$  and  $R_{14}$  may be the same or different and each independently represents hydrogen, substituted or unsubstituted groups such as linear or branched  $(C_1-C_{12})$ alkyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_1)$ cycloalkyl,  $(C_3-C_7)$ cycloalkyl, bicycloalkyl, bicycloalkyl, bicycloalkyl, aryl, aralkyl, heteroaryl, or heterocyclylalkyl; or  $R_{13}$  and  $R_{14}$  along with the nitrogen atom, may form a 3, 4, 5, 6 or 7-membered heterocyclic ring, wherein the ring may be further substituted, and it may have either one, two or three double bonds or "additional heteroatoms", as defined above; and

"n" is an integer ranging from 1 to 87.

(Currently amended) A compound according to Claim 1, which is selected from the group consisting of:

 $6\hbox{-}(2\hbox{-}N,N\hbox{-}Dimethylaminoethyl) benzo[d] is othiazolo[3,2\hbox{-}a] indol\hbox{-}S,S\hbox{-}dioxide;$ 

 $\hbox{$4$-Bromo-6-(2-N,N-dimethylaminoethyl)$benzo[d] is othiazolo[3,2-a] indol-S,S-dioxide;}$ 

 $\hbox{4-Chloro-6-(2-N,N-dimethylaminoethyl)-benzo[d]} is othiazolo [3,2-a] indol-S,S-dioxide;$ 

6-(2-N,N-Dimethylaminoethyl)-4-fluorobenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

 $\label{eq:condition} 6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d] is othiazolo[3,2-a] indol-S,S-dioxide hydrochloride salt;$ 

 $\label{eq:condition} 6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d] is othiazolo[3,2-a] indol-S,S-dioxide maleate$ 

salt:

 $\label{eq:condition} 6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d] isothiazolo[3,2-a] indol-S,S-dioxide D,L-malic acid salt;$ 

 $\label{eq:condition} 6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d] is othiazolo[3,2-a] indol-S,S-dioxide oxalate salt:$ 

 $\label{eq:continuous} 6\text{-}(2\text{-N,N-Dimethylaminoethyl})\text{-}4\text{-methylbenzo} \\ [d] is othiazolo \\ [3,2\text{-a}] indol\text{-S,S-dioxide citrate salt;}$ 

6-(2-N,N-Dimethylaminoethyl)-4-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

 $6\hbox{-}(2\hbox{-}N,N\hbox{-}Dimethylaminoethyl)-8\hbox{-}methoxybenzo[d] is othiazolo[3,2\hbox{-}a] indol\hbox{-}S,S\hbox{-}dioxide;$ 

4-Bromo-6-(2-N,N-dimethylaminoethyl)-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

 $\label{lem:condition} 4- Chloro-6-(2-N,N-dimethylaminoethyl)-8-methoxybenzo[d] isothiazolo[3,2-a] indol-S, S-dioxide:$ 

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6-(2-N,N-Dimethylaminoethyl)-4-fluoro-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S,Sdioxide;

6-(2-N.N-Dimethylaminoethyl)-4-methyl-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S.S-dioxide:

6-(2-N,N-Dimethylaminoethyl)-4,8-dimethoxybenzo[d]isothiazolo[3,2-a]indol-S,Sdioxide:

6-(2-N,N-Dimethylaminoethyl)-2-ethylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

2-Chloro-6-(2-N,N-dimethylaminoethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

2,4-Dichloro-6-(2-N,N-dimethylaminoethyl)-benzo[d]isothiazolo[3,2-a]indol-S.Sdioxide:

2.3-Dichloro-6-(2-N,N-dimethylaminoethyl)-benzo[d]isothiazolo[3,2-a]indol-S,Sdioxide:

5-Chloro-6-(2-N,N-dimethylaminoethyl)-2-methylbenzo[d]isothiazolo[3,2-a]indol-S,Sdioxide;

2.4.5-Trichloro-6-(2-N,N-dimethylaminoethyl)-benzo[d]isothiazolo[3,2-a]indol-S,Sdioxide:

6-(2-N,N-Dimethylaminoethyl)-2,4-difluorobenzo[d]isothiazolo[3,2-a]indol-S,Sdioxide:

6-(2-N,N-dimethylaminoethyl)-4-fluoro-8-methylbenzo[d] isothiazolo[3,2-a] indol-S, S-methylbenzo[d] isothiazodioxide:

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- 2, 4- Difluoro-6-(2-N, N-dimethylaminoethyl)-8-methylbenzo[d] isothiazolo[3, 2-a] indol-S.S-dioxide:
  - 6-(2-N,N-Dimethylaminoethyl)-2-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
- $\label{eq:continuous} 6\mbox{-(2-N,N-Dimethylaminoethyl)-2,8-dimethoxybenzo[d]} is othiazolo[3,2-a] indol-S, S-dioxide:$ 
  - 6-(2-N,N-Dimethylaminoethyl)-8-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
- $\label{eq:continuous} 6\hbox{-}(3\hbox{-}N,N\hbox{-}Dimethylamino-1-hydroxyprop-1-yl)} benzo[d] isothiazolo[3,2\hbox{-}a] indol-S,S-dioxide;$  dioxide;
- $\label{lem:condition} 4-Bromo-6-(3-N,N-Dimethylamino-1-hydroxyprop-1-yl) benzo[d] is othiazolo [3,2-a] indol-S,S-dioxide;$
- $\label{eq:continuous} 6-(3-N,N-Dimethylamino-1-hydroxyprop-1-yl)-8-methoxybenzo[d] is othiazolo [3,2-a] indol-S,S-dioxide;$
- $\label{eq:continuous} 6-(3-N,N-Dimethylamino-1-hydroxyprop-1-yl)-8-methylbenzo[d] is othiazolo[3,2-a] indol-S,S-dioxide;$
- $\label{lem:condition} 4-Bromo-6-(3-N,N-dimethylamino-1-hydroxyprop-1-yl)-8-\\ methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;$ 
  - 6-[2-(4-Methylpiperazin-1-yl)ethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
  - 6-[2-Morpholin-4-ylethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
  - 6-(2-Pyrrolidin-1-ylethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
  - 6-(2-Piperidin-1-yl)ethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

- 4-Bromo-6-[2-morpholin-4-ylethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
- 4-Bromo-6-(2-pyrrolidin-1-ylethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
- $\label{lem:bound} \mbox{$4$-Bromo-6-[2-(4-methyl)piperazin-1-yl)ethyl]benzo[d]} isothiazolo[3,2-a] indol-S, S-dioxide;$ 
  - 6-(3-(Piperidin-1-yl)-1-hydroxyprop-1-yl)benzo[d] isothiazolo[3,2-a] indol-S, S-dioxide;
- 6-(3-(Piperidin-1-yl)-1-hydroxyprop-1-yl)-8-methoxybenzo[d] isothiazolo[3,2-a] indol-S,S-dioxide;
- $\label{lem:condition} 4-Bromo-6-(3-(piperidin-1-yl)-1-hydroxyprop-1-yl) benzo[d] is othiazolo [3,2-a] indol-S, S-dioxide:$
- $\label{lem:condition} 4-Bromo-6-(3-(piperidin-1-yl)-1-hydroxyprop-1-yl)-8-methoxybenzo[d] is othiazolo[3,2-a] indol-S,S-dioxide;$ 
  - $6\hbox{-}(3\hbox{-}(Pyrrolidin-1-yl)\hbox{-}1\hbox{-}hydroxyprop-1-yl)benzo[d] isothiazolo[3,2\hbox{-}a] indol-S,S-dioxide;$
- 6-(3-(Pyrrolidin-1-yl)-1-hydroxyprop-1-yl)-8-methoxybenzo[d] isothiazolo[3,2-a] indol-S.S-dioxide:
  - 6-(2-(N,N-Diethylamino)-2-methylethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
  - 6-(2-(N.N-Dimethylamino-1-hydroxy-1-yl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
- $\label{lem:condition} 4-Bromo-6-(2-(N,N-Dimethylamino-1-hydroxy-1-yl)benzo[d] isothiazolo[3,2-a] indol-S,S-dioxide;$
- $\label{eq:condition} 6-(2-(N,N-Dimethylaminoethyl)-2,4-difluoro-8-Methoxybenzo[d] is othiazolo [3,2-alindol-S,S-dioxide;$

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6-(2-(N,N-Dimethylamino-2-methylethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

4-Chloro-6-(2-(N,N-Dimethylaminoethyl)-8-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide: and

8-(2-(N,N-Dimethylaminoethyl) benzo[d] is othiazolo[3,2-a] benzo(g) indol-S,S-dioxide,

or its stereoisomers, its N-oxides, and its pharmaceutically acceptable salts and solvates.

- 3. (Currently amended) A pharmaceutical composition comprising either of a pharmaceutically acceptable carrier, diluent/s, excipient/s or solvents along with a therapeutically effective amount of a compound according to Claim 1, its tautomeric forms, its stereoisomers, its geometric forms, its N-oxides, and its pharmaceutically acceptable salts<del>, or solvates</del>.
- 4. (Previously presented) A pharmaceutical composition according to Claim 3, in the form of a tablet, capsule, powder, lozenges, suppositories, syrup, solution, suspension or injectable, administered in, as a single dose or multiple dose units.
- 5. (Withdrawn, Currently amended) <u>A method for modulating 5-HT receptor function in a mammal in need of such treatment comprising administering to said mammal an effective amount for modulating said function of a Use of compound of formula (I), as defined in Claim 1 οπ-α pharmaceutical composition as defined in Claim 3 for preparing medicaments.</u>
- 6. (Withdrawn, Currently amended) <u>A method for modulating 5-HT receptor function in a mammal in need of such treatment comprising administering to said mammal an effective amount for modulating said function of a Use of compound of formula (I), as defined in Claim 1 or a pharmaceutical composition as defined in Claim 3 for the treatment where a modulation of 5-HT activity is desired.</u>

- (Withdrawn) Use of a compound as claimed in Claim 1 for the manufacture of a
  medicament for the treatment and/or prevention of clinical conditions for which a selective action
  on 5-HT receptors is indicated.
- 8. (Withdrawn) Use of a compound as claimed in Claim 1 for the treatment and/or prevention of clinical conditions such as anxiety, depression, convulsive disorders, obsessive-compulsive disorders, migraine headache, cognitive memory disorders, ADHD (Attention Deficient Disorder/ Hyperactivity Syndrome), personality disorders, psychosis, paraphrenia, psychotic depression, mania, schizophrenia, schizophreniform disorders, withdrawal from drug abuse, panic attacks, sleep disorders and also disorders associated with spinal trauma and /or head injury.
- (Withdrawn) Use of a compound as claimed in Claim 1 for the treatment of mild cognitive impairment and other neurodegenerative disorders like Alzheimer's disease, Parkinsonism and Huntington's chorea.
- (Withdrawn) Use of a compound as claimed in Claim 1 for the treatment of certain GI (Gastrointestinal) disorders such as IBS (Irritable bowel syndrome) or chemotherapy induced emesis.
- 11. (Withdrawn) Use of a compound as claimed in Claim 1 to reduce morbidity and mortality associated with the excess weight.
- (Withdrawn) Use of a radiolabelled compound as claimed in Claim 1, as a diagnostic tool for modulating 5-HT receptor function.
- 13. (Withdrawn) Use of a compound as claimed in Claim 1 in combination with a 5-HT reuptake inhibitor, and / or a pharmaceutically acceptable salt thereof.

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#### 14. (Canceled)

- 15. (Withdrawn) A method for the treatment and/or prophylaxis of clinical conditions such as anxiety, convulsive disorders, obsessive-compulsive disorders, migraine headache, cognitive memory disorders, ADHD (Attention Deficient Disorder/ Hyperactivity Syndrome), personality disorders, psychosis, paraphrenia, psychotic depression, mania, schizophrenia, schizophreniform disorders, withdrawal from drug abuse, panic attacks, sleep disorders and also disorders associated with spinal trauma and /or head injury which comprises administering to a patient in need thereof, an effective amount of a compound of formula (I) as claimed in Claim 1.
- 16. (Withdrawn) A method for the treatment and/or prophylaxis of mild cognitive impairment and other neurodegenerative disorders like Alzheimer's disease, Parkinsonism and Huntington's chorea which comprises administering to a patient in need thereof, an effective amount of a compound of general formula (I) as claimed in Claim 1.
- 17. (Withdrawn) A method for the treatment of certain GI (Gastrointestinal) disorders such as IBS (Irritable bowel syndrome) or chemotherapy induced emesis using a compound of general formula (I) as claimed in Claim 1.
- 18. (Withdrawn) A method to reduce morbidity and mortality associated with the excess weight using a compound of formula (I) as claimed in Claim 1.
- 19. (Withdrawn, Currently amended) A process for the preparation of a compound of formula (I), wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub> and R<sub>12</sub> may be same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>2</sub>-C<sub>12</sub>)alkenyl, (C<sub>2</sub>-C<sub>12</sub>)alkynyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkenyl, bicycloalkyl, bicycloalkenyl, (C<sub>1</sub>-C<sub>12</sub>)alkoxy, cyclo(C<sub>3</sub>-C<sub>7</sub>)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclylalkyl, heteroaryl, heteroaryl, heteroaryly, heteroaryly, heterocyclylalkyl, heteroaryly, heteroaryly, heterocyclylalkyloxy,

acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino; or the adjacent groups like R1 and R2 or R2 and R3 or R3 and R4 or R5 and R6 or R6 and R7 or R7 and R8 together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R9 and R10 or R11 and R12 together represent double bond attached to "Oxygen" or "Sulfur"; or R9 and R10 or R11 and R12 together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and also includes combination of one or more double bonds with "heteroatoms", as above defined;

 $R_{13}$  and  $R_{14}$  may be same or different and each independently represents hydrogen, substituted or unsubstituted groups such as linear or branched  $(C_1-C_{12})$ alkyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkanoyl  $(C_3-C_7)$ eycloalkyl,  $(C_3-C_7)$ eycloalkenyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, or heterocyclylalkyl; or  $R_{13}$  and  $R_{14}$  along with the nitrogen atom, may form a 3, 4, 5, 6 or 7-membered heterocyclic ring, wherein the ring may be further substituted, and it may have either one, two or three double bonds or "additional heteroatoms", as defined above; and

"n" is an integer ranging from 1 to 8, preferably 1 to 4, and may represent either a linear or branched carbon chain; which comprises of cyclizing, a compound of formula (II) given below,

wherein R<sub>11</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>12</sub>, R<sub>12</sub>, R<sub>13</sub>, R<sub>14</sub> and "n", wherein all the symbols are as defined above, using a Pd(0) or Pd (11) derivative as a catalyst.

# 20. (Withdrawn) A process for the preparation of a compound of formula (I),

$$R_1$$
 $R_2$ 
 $R_3$ 
 $R_4$ 
 $R_1$ 
 $R_1$ 
 $R_1$ 
 $R_1$ 
 $R_1$ 
 $R_2$ 
 $R_3$ 
 $R_4$ 
 $R_5$ 
 $R_6$ 
 $R_6$ 

wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub> and R<sub>12</sub> may be same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C<sub>1</sub>-C<sub>12</sub>)alkyl,

(C2-C12)alkynyl, (C3-C7)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkenyl, bicycloalkyl, (C2-C12)alkenyl,  $bicycloalkenyl,\ (C_1-C_{12})alkoxy,\ cyclo(C_3-C_7)alkoxy,\ aryl,\ aryloxy,\ aralkyl,\ aralkoxy,\ heterocyclyl,$ heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, arvloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, alkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkylthio, thioalkyl, alkoxycarbonylamino. aryloxyalkyl, aralkoxyalkyl, alkoxvalkyl. aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, dialkylaminocarbonylamino, hydroxylamino; or the adjacent groups like R1 and R2 or R2 and R3 or R3 and R4 or R5 and R6 or R6 and R7 or R7 and R8 together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R9 and R10 or R11 and R12 together represent double bond attached to "Oxygen" or "Sulfur"; or R9 and R10 or R11 and R12 together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and also includes combination of one or more double bonds with "heteroatoms", as above defined;

unsubstituted groups such as linear or branched  $(C_1-C_{12})$ alkyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkanoyl  $(C_3-C_7)$ eycloalkyl,  $(C_3-C_7)$ eycloalkyl, bicycloalkyl, bicycloalkyl, aryl, aralkyl, heteroaryl, or heterocyclylalkyl; or  $R_{13}$  and  $R_{14}$  along with the nitrogen atom, may form a 3, 4, 5, 6 or 7-membered heterocyclic ring, wherein the ring may be further substituted, and it may have either one, two or three double bonds or "additional heteroatoms", as defined above; and "n" is an integer ranging from 1 to 8, preferably 1 to 4, and may represent either a linear or branched earbon chain; which comprises of reacting a compound (III) given below,

R<sub>13</sub> and R<sub>14</sub> may be same or different and each independently represents hydrogen, substituted or

$$\begin{array}{c|c} R_{10} & H \\ R_{10} & D_{11} \\ R_{12} & R_{11} \\ R_{12} & R_{0} \\ R_{3} & R_{4} \end{array}$$

$$\begin{array}{c|c} R_{10} & R_{11} \\ R_{12} & R_{0} \\ R_{5} & R_{6} \end{array}$$

$$(III)$$

wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$ ,  $R_{11}$ ,  $R_{12}$  and "n" are as defined above, with a suitable alkylating agent such as  $R_{13}$  X or  $R_{14}$  X or  $XR_{13}R_{14}$ X in successive steps or in one step, wherein X is good leaving group such as halogen and hydroxyl.

## 21. (Withdrawn) A process for the preparation of a compound of formula (I),

wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$ ,  $R_{11}$  and  $R_{12}$  may be same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched  $(C_1-C_{12})$ alkyl,  $(C_2-C_{12})$ alkynyl,  $(C_3-C_7)$ cycloalkyl,  $(C_3-C_7)$ cycloalkyl, bicycloalkyl, bicycloalkyl,

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bicycloalkenyl, (C1-C12)alkoxy, cyclo(C3-C7)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, heterocyclylalkoxycarbonyl, arvloxycarbonyl, aralkoxycarbonyl, alkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, arvloxvalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, alkoxvalkvl. aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, alkylguanidino, dialkylguanidino. hydrazino, dialkylaminocarbonylamino, alkylamidino. hydroxylamino; or the adjacent groups like R1 and R2 or R2 and R3 or R3 and R4 or R5 and R6 or R6 and R7 or R7 and R8 together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R9 and R10 or R11 and R12 together represent double bond attached to "Oxygen" or "Sulfur"; or R9 and R10 or R11 and R12 together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and also includes combination of one or more double bonds with "heteroatoms", as above defined;

 $R_{13}$  and  $R_{14}$  may be same or different and each independently represents hydrogen, substituted or unsubstituted groups such as linear or branched  $(C_1-C_{12})$ alkyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkenyl,  $(C_2-C_{12})$ alkenyl, bicycloalkyl, bicycloalkyl, aryl, aralkyl, heteroaryl, or heterocyclylalkyl; or  $R_{13}$  and  $R_{14}$  along with the nitrogen atom, may form a 3, 4, 5, 6 or 7-membered heterocyclic ring, wherein the ring may be further substituted, and it may have either one, two or three double bonds or "additional heteroatoms", as defined above; and "n" is an integer ranging from 1 to 8, preferably 1 to 4, and may represent either a linear or

"n" is an integer ranging from 1 to 8, preferably 1 to 4, and may represent either a linear or branched carbon chain; which comprises of reacting a compound of (IV) given below,

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$$R_2$$
 $R_3$ 
 $R_4$ 
 $R_5$ 
 $R_6$ 
 $R_8$ 
 $R_7$ 
 $R_8$ 
 $R_7$ 
 $R_8$ 
 $R_7$ 

wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> and R<sub>8</sub> are as defined above, with formaldehyde and a compound of formula (V) given below,

wherein R13 and R14 are as defined above.

- 22. (Withdrawn) A process for the preparation of compound of formula (I), which comprises of either chemically or catalytically reducing compounds containing =C(O) group/s in the side chain, to the corresponding –C(OH,H) or –C(H,H) compound.
- 23. (Withdrawn) A process according to Claim 19 to Claim 22, comprising of carrying out one or more of the following optional steps: i) removing any protecting group; ii) resolving the racemic mixture into pure enantiomers by the known methods and iii) preparing a pharmaceutically acceptable salt of a compound of formula (I) and/or iv preparing a pharmaceutically acceptable prodrug thereof.
- (Canceled)
- 25. (Canceled)

### 26. (Previously presented) Novel intermediates of formula (III) are represented as given below,

$$\begin{array}{c|c} R_1 & R_9 & H & H \\ R_1 & R_9 & H & H \\ R_2 & R_1 & R_2 & R_3 & R_7 \\ R_3 & R_4 & R_5 & R_5 \end{array}$$

and

wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub> and R<sub>12</sub> may be the same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C1-C<sub>12</sub>)alkyl, (C<sub>2</sub>-C<sub>12</sub>)alkenyl, (C<sub>2</sub>-C<sub>12</sub>)alkynyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkenyl, bicycloalkyl, bicycloalkenyl, (C1-C12)alkoxy, cyclo(C3-C7)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, alkoxycarbonyl. heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio. thioalkyl. alkoxycarbonylamino, alkoxvalkyl, aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, alkylamidino. alkylguanidino, dialkylguanidino, dialkylaminocarbonylamino. hydroxylamino; or the adjacent groups like R1 and R2 or R2 and R3 or R3 and R4 or R5 and R6 or R6 and R7 or R7 and R8 together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or  $R_9$  and  $R_{10}$  or  $R_{11}$  and  $R_{12}$  together represent double bond attached to "Oxygen" or "Sulfur"; or  $R_9$  and  $R_{10}$  or  $R_{11}$  and  $R_{12}$  together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium", as above defined[[.]];

"n" is an integer ranging from 1 to 8.

- (Withdrawn) A process provided for the preparation of novel intermediate of the general formula (III) which comprises of cyclizing a suitable compounds of formula (II).
- 28. (Withdrawn) Novel intermediates defined of formula (IV),

$$\begin{array}{c|c} R_1 & O & CH_3 \\ \hline R_2 & R_6 \\ \hline R_3 & N & SO_2 & R_6 \\ \hline R_4 & SO_2 & R_6 \end{array}$$

(IV)

wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> and R<sub>8</sub> are as may be same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C<sub>1</sub>-C<sub>12</sub>)alkyl, (C<sub>2</sub>-C<sub>12</sub>)alkenyl, (C<sub>2</sub>-C<sub>12</sub>)alkynyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)cycloalkyl, bicycloalkyl, bicycloalkyl, (C<sub>1</sub>-C<sub>12</sub>)alkoxy, cyclo(C<sub>3</sub>-C<sub>7</sub>)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclylalkyl, heteroaralkyl, heteroaralkyl, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino,

heterocyclylalkoxycarbonyl, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, alkoxvalkyl, arvloxvalkyl. aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylguanidino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino. hydroxylamino; or the adjacent groups like R1 and R2 or R2 and R3 or R3 and R4 or R5 and R6 or R6 and R7 or R7 and R8 together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; and R9 and R10 here are represented as double bond attached to "Oxygen".

(Withdrawn) A process provided for the preparation of novel intermediate of the formula
 (IV) which comprises of cyclizing compounds of formula (VIII)

wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> and R<sub>8</sub> are as defined above; using a Pd(0) or Pd (II) derivative as a catalyst.

- 30. ((Previously presented)) The compound of claim 1, wherein n is 1 to 4.
- 31. (Previously Presented) The novel intermediates of claim 26, wherein n is 1 to 4.